

Archived Information

TEACHER QUALITY RESEARCH GRANTS

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REQUEST FOR APPLICATIONS: NCER-03-07

Institute of Education Sciences

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LETTER OF INTENT RECEIPT DATE: March 6, 2003

APPLICATION RECEIPT DATE: April 18, 2003

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Request for Applications

The Institute of Education Sciences invites applications for research projects that will contribute to its research program on Teacher Quality. For this competition, the Institute will consider only applications that meet the requirements outlined below under the section on Requirements of the Proposed Research.

Purpose of the Research Program

The purpose of the research program on Teacher Quality is to improve student learning by providing evidence of effective strategies for improving the preparation of classroom teachers and the instructional strategies they use. The Institute intends this program to establish a scientific foundation for educational policy and practice in this area. The program will support research on the key issues of teacher quality that are likely to lead to substantial gains in academic achievement for all students and a lowering of the achievement gap between minority and non-minority students and between economically disadvantaged students and their more advantaged peers. The focus of the 2003 competition will be professional development for teaching first grade reading and sixth grade mathematics.

Background

The *No Child Left Behind Act* of 2001 requires that by the end of the 2005-2006 school year all teachers in core academic subjects be highly qualified. The law defines highly qualified teachers as those who have demonstrated knowledge or competence in their subject matter, hold bachelors degrees, and are fully certified to teach in their state. The law requires that all new elementary teachers will have to pass tests in subject knowledge and teaching skills in math, reading, and writing, while new middle and high school teachers must pass rigorous subject matter tests or have the equivalent of an undergraduate major, graduate degree or advanced certification in their respective fields. While raising the entrance bar for new teachers is likely to have an impact on student achievement, existing teachers as well as new teachers will also need intensive and focused professional development in order to deliver instruction that is aligned to state content standards and that raises all students to proficient performance in the core academic disciplines.

Professional development activities for teachers are pervasive phenomena in our nation's schools. Council of Chief State School Officers data (*Key State Education Policies on PK-12 Education: 2002*) indicate that over 90% of states have some sort of professional development requirement for teacher license renewal or recertification, and additional training is sometimes required by local districts. The National Center for Education Statistics (NCES) reports that in 1999-2000 at least 80 percent of public school teachers attended some kind of professional development activity in the previous 12 months (NCES 2002-088). A recent Policy Brief from the Center for the Study of Teaching Policy (November, 2002), based on Census data and NCES Common Core data, estimates that nearly 3% of total school district expenditures in the late 1990s was spent on instructional staff support (a range of professional development activities), amounting to a little over \$9 billion per year in 1998 dollars. In FY 2002, the U.S. Department of Education provided \$3 billion in Improving Teacher Quality State Grants designed to improve teacher and principal quality using research-based strategies.

While the nation currently engages in a tremendous amount of teacher professional development, and the accountability provisions of the No Child Left Behind Act will demand even more, experts commonly believe that most current professional

development offerings are not very effective. They are often delivered as distinct topic seminars or workshops, often off site from the workplace, and not necessarily directly related to job-specific challenges. The participants in the workshops are usually a heterogeneous group in terms of experience, knowledge, and current teaching assignments. The content of the sessions usually focuses on generic strategies. There are few opportunities to model how the strategies would work in actual classrooms, and there are no follow-up visits to help teachers employ the strategies properly. While there has been much bemoaning of these short-duration, “one-shot” training sessions with little continuity, and much written about newer models that may be more effective, it appears that the former is still the norm. The NCES 2000 survey of teachers indicates that in 9 out of 10 topics of professional development in which teachers reported participating during the previous 12 months, well over half said the duration of the training was between 1 and 8 hours. The survey also found that generally teachers who participated in professional development activities for more than 8 hours were more likely than those who spent less time to report that they felt very well prepared for that activity (NCES 2002-088). Clearly, there is a need to develop and disseminate more effective professional development opportunities for teachers.

Reviews of the literature to date have resulted in lists of good ideas about how effective professional development should be conducted. These lists include such factors as: focusing on content, particularly content aligned to curriculum standards and assessments; conducting the training on a continuous basis over the school semester or year; providing mentors, coaches, or peer teammates to model appropriate teaching strategies and give teachers feedback on their own performance; providing planning and discussion time for teachers to reflect on their instructional practices; training teachers to use student assignments and assessments to monitor student progress and inform instructional needs; and holding teachers accountable for implementing instructional strategies and student learning. However, the research behind these ideas is often based on qualitative case studies, and there is no way of knowing which elements are critical or relatively more important than others. Few studies are explicit about the resources necessary to provide such professional development opportunities and the trade-offs in terms of costs and benefits of providing or not providing one or more of the individual components is unclear. One purpose of the research program on Teacher Quality is to provide more definitive evidence about the cost-effectiveness of various professional development models for teaching beginning reading and middle school math.

Getting children to read proficiently by the end of third grade has become a national priority. Reading is the foundation for all schooling and is fundamental to later life opportunities. Yet, the National Assessment of Educational Progress (NAEP) reports that 37% of fourth graders in 2000 could not read at the basic level, meaning they could not read and understand a paragraph from an age-appropriate children's book (NCES 2001-1499). Moreover, the achievement gap between racial and ethnic groups is large and has not changed significantly since 1992. The NAEP reports that among 4th graders in 2000, 40% of whites were at or above the "proficient" level in reading; but only 17% of American Indians, 16% of Hispanics, and 12% of African Americans were reading at that level. After a very careful review of the empirical literature, the National Reading Panel (NIH, December, 2000) concluded that we have learned much about what is required for

a child to learn how to read but there is very little evidence about the best ways to prepare teachers to teach reading effectively. While the Panel found a large body of work on pre-service and in-service teacher preparation in reading, there were only 32 studies (11 pre-service and 21 in-service) that met their criteria for inclusion in the review. In this sparse body of evidence, they found “no single method of teaching teachers to teach reading that produced results that clearly indicated unquestioned superiority” (p. 5-13). In general, these studies showed that teachers do adopt the strategies and techniques they are taught, and in all but a few cases, professional development interventions produced significantly higher student achievement, evidence that interventions in professional development are successful. Yet, because the research is fragmented and widely divergent, the Panel found it impossible to reach a specific conclusion about the content of instruction to the teachers or the manner in which effective professional development is conducted. It is not clear from the studies what the duration of professional development efforts needs to be, and how to sustain effects. To achieve our nation's goals in reading, we need better studies of how best to get teachers to learn and use effective strategies of teaching early reading.

NAEP results in mathematics, while encouraging, are also cause for concern. Between 1990 and 2000, the proportion of students performing below the basic level has decreased substantially in grades 4 and 8 (from about 1/2 to 1/3) and the proportion of students performing at the “proficient or advanced level” has almost doubled (from about 1/8 to 1/4). Despite these achievements, large numbers of U.S. students show mastery of only rudimentary mathematics and only a small proportion achieve at high levels. In the most recent NAEP, only 26% of grade 4 students, 27% of grade 8 students, and 17% of grade 12 students were judged “proficient” in mathematics. At the same time 31% of grade 4 students, 34% of grade 8 students, and 35% of grade 12 students scored below the basic level. Students who score below the basic level do not demonstrate even partial mastery of the material that is appropriate for their age group. For example, in 1996, 78% of fourth graders below the basic level could not answer the question: How many fourths make a whole? Overall, half of the nation’s fourth graders could not answer this question.

On the Third International Mathematics and Science study, conducted in 1995, our performance relative to other nations depended dramatically on children’s grade and age. U.S. children were above average in elementary school, slightly below average in middle school, and nearly at the bottom on exit from high school.

In mathematics too, low levels of achievement are more likely among minority groups and children from low-income backgrounds than among children from advantaged circumstances. For instance, on the most recent NAEP, 68% of African American 8th graders scored below basic in mathematics compared to only 23% of white students. For the past decade, the gap in NAEP mathematics scores between white and black students and between white and Hispanic students has remained large and relatively unchanged.

Since the late 1990s numerous groups have attempted to synthesize what we know and must do to change mathematics education. Eight of these reports are summarized and analyzed in an attempt to achieve coherency among overlapping recommendations in

Improving Mathematics Education: Resources for Decision Making (National Research Council, 2001). A subsequent ninth report by RAND, *Mathematical Proficiency for All Students: Toward a Strategic Research and Development Program in Mathematics Education* (September, 2002, <http://www.rand.org/publications/MR/MR1643.0>), focused on gaps in our knowledge needing research.

Professional development in this area is hindered by a lack of consensus and research evidence about what constitutes an effective mathematics curriculum as well as conflicting models of a quality teacher. With respect to curriculum, there is substantial debate about the appropriate mix and timing of activities directed towards imparting a conceptual understanding of mathematics versus computational skills, and related controversy over the appropriate role of discovery learning methods versus direct instruction. With respect to goals of teacher preparation and professional development in mathematics, the *learned professional model* aims for teachers who are deeply knowledgeable about mathematics as well as able to understand students' conceptions about mathematics in order to build on those understandings to convey formal mathematical principles. The *skilled professional model*, in contrast, aims for mathematics teachers who are adept at delivering the curriculum and content that is deployed in the classrooms they teach, with assistance from master teachers and trainers who may be learned professionals. These two models suggest very different directions for professional development, with learned professionals requiring ongoing and intensive opportunities to increase their mathematical knowledge and their understanding of how children learn, and with skilled professionals requiring much more specific, situated, on-going training and support on how to deliver specific curricula. Another purpose of the research program on Teacher Quality is to provide evidence on the circumstances in which these two models of professional development – the skilled professional model and the learned professional model – are more or less effective. For instance, does a school system with many inexperienced teachers and substantial staff turnover require a different form of professional development of middle school mathematics teachers than a system with an experienced and stable workforce? The Institute of Education Sciences has begun a program of research on Effective Mathematics Education that currently will focus on the skills and knowledge that provide the basis for success in algebra in grades 5-8 (<http://www.ed.gov/programs/edresearch/index.html>). This research program on Teacher Quality will partially complement that effort.

Finally, professional development models in general often differ by their focus on how adults and children learn — the relative emphases and interactions between learner-centered instruction, knowledge-centered instruction, and assessment-centered opportunities for feedback and revision (National Academy of Sciences, *How People Learn: Brain, Mind, Experience, and School*, 1999). These emphases also affect perceptions about the roles of teachers as instructors and facilitators and the amount of content, pedagogy, and assessment knowledge and skills teachers require. In addition to the substance and process of knowledge transfer, some models of professional development are focused on changing organizational arrangements in which the professional development takes place, e.g., differentiated staffing to promote specialization of skills, incentives to encourage individual professional development,

individual and collective opportunities for learning, resources to support learning, and accountability structures.

The research program on Teacher Quality intends to provide scientific evidence on professional development approaches that significantly affect instructional strategies and result in higher student achievement scores and reduced racial and ethnic group gaps in performance in either *early reading, specifically first grade*, or *middle school mathematics, specifically sixth grade*. (Single grade levels have been selected to allow for collection of comparable data across studies.) Over time, this research program will provide educators with trustworthy information on effective professional development models for supporting early reading and middle school math, effective methods for delivering professional development, and the conditions under which these specific professional development models and delivery methods work best.

Requirements of the Proposed Research

Applicants should propose professional development studies in early reading (Grade 1), middle school mathematics (Grade 6), or both that will test at least one of the following: (1) the effectiveness of a professional development model by comparing it to an alternative program or model, (2) the components of a professional development model by varying the implementation of one or more components in the model, or (3) the relative effectiveness of using alternative methods of delivering the professional development.

- (1) Examples of *evaluations of the effectiveness of professional development models* include comparing the effectiveness of a professional development model that emphasizes teacher conceptual understanding of 6th grade mathematics content with a professional development model that emphasizes how teachers can best teach a structured curriculum in 6th grade mathematics.
- (2) An example of *examining the components of a professional development model* is testing whether the professional development model is more effective in changing instructional practices and improving student learning with or without one of the following key components: (a) teacher accountability, (b) school facilitator, (c) teacher planning time, or (d) training on how to use student assessment data.
- (3) An example of *evaluating different professional development delivery strategies* is an evaluation of the effectiveness of professional development delivered via a self-paced, technology-based medium including examples of lessons versus the effectiveness of professional development delivered through monthly seminars with live demonstration lessons.

These examples are purely for illustrative purposes and should not be considered exhaustive of the possibilities that are applicable.

Two primary outcomes should be measured — the effectiveness of the professional development on *teacher practices*, and the effectiveness of the professional development

of those practices on *student achievement*. Secondary questions may focus on the sustainability of the changes in teacher practices; whether the professional development also affects teacher retention rates; whether the effectiveness of the professional development varies by teacher background and experience, and by student background and abilities; and on validating measures of teacher quality with student gains in achievement. Studies that address how classroom, school, or school district contexts affect the implementation and outcomes of the professional development program, particularly schools that have high staff turnover, and schools that have been officially identified as needing school improvement are also of interest. Documentation of the resources required to implement the professional development models and analysis of their relative costs in comparison to competing models needs to be part of the study.

In recent years, the U.S. Department of Education has supported studies that have developed sophisticated methods and measures of instructional practice. Two of these are readily available to researchers and may be of interest to applicants:

- (1) The TIMSS-R Video Study includes instructional data on samples of eighth-grade mathematics and science teaching in seven countries. The study provides national-level portraits of mathematics and science teaching practices that give a more detailed context for understanding mathematics and science teaching and learning in the classroom (<http://www.nces.ed.gov/timss/timss-r/resource.asp>).
- (2) The Study of Instructional Improvement is an examination of the impacts of three leading school improvement programs on instruction and student performance in more than 100 elementary schools across the country over a six-year period. Because one of the primary goals is to identify changes in instruction that show particular promise for improving student learning, the researchers have developed new tools for measuring teacher content knowledge and for documenting instructional practices (<http://www.sii.soe.umich.edu/links.html>).

The research program on Teacher Quality will fund projects up to a four-year period. Year 1 may be used to adapt professional development models to specific subject and grade-level curricula, to develop evaluation instruments, and to pilot the professional development program. Year 2, and possibly year 3, will include implementation and evaluation of the professional development program. The final year (year 3 or 4) will be used for data analysis and report writing.

Professional development models proposed for these grants must be based on a sound empirical and/or theoretical foundation, preferably both. In other words, the applications must present a convincing rationale that the content of the professional development proposed is likely to increase student reading or mathematical proficiency if practiced by teachers, that the professional development approach being tested is more likely than standard approaches to enable teachers to learn the content and adopt the practices, and that the professional development model is likely to be worthy of emulation by others. Where variations of the components of a model or the delivery mode are being tested,

applicants must present convincing rationales (based on evidence and/or theory) for the different versions.

Because the research program on Teacher Quality focuses on identifying the causal effects of professional development models, components, and delivery modes, experimental designs using random assignment are strongly preferred. Applicants proposing to use other approaches, such as quasi-experiments with matched groups and statistical controls, should carefully justify their approach in terms of the ability to make causal inferences, and should provide a compelling rationale for why random assignment is impossible or inappropriate. The evaluation should be designed to rule out the possibility that observable differences between conditions might have occurred simply by comparing any well-developed professional development program with a “business-as-usual” professional development program.

An explanation of the procedures for random assignment and a discussion of the procedures that will be used to track the fidelity of the assignment and possible potential sources of contamination must be provided. Schools or districts that have agreed to participate in the study must agree to participate fully with random assignments of teachers as a condition of the grant award. Applicants are encouraged to consider whether some form of incentives could facilitate cooperation with the random assignment process and to budget accordingly.

A description of how the applicant will document implementation of the professional development model and fidelity to the professional development model must be provided. Applicants must describe plans for ensuring that the professional development model is implemented as it has been designed.

The Institute will use a *cooperative agreement* mechanism that allows substantial Federal involvement in the activities undertaken with Federal financial support. The specific responsibilities of the Federal staff and project staff will be identified and agreed upon prior to the award. An underlying motivation for the research program on Teacher Quality is to provide the education community with comparable information on the effectiveness of various professional development models for early reading and professional development models for middle school math. Consequently, grantees will be required, to the extent possible, to use common measures of teacher and student background variables, teacher practices, student outcomes, context variables, and resource costs. Applicants will be responsible for assessing teacher and student outcomes regarding the experimental programs and comparison programs, using both the common measures and distinct measures appropriate to their specific project. Although some adjustment to common measures will take place once the grantees begin working together, applicants should propose now which measures they would use if the study was not being coordinated any other way. Applicants should be specific about these measures and how they plan to validate them. What are the theoretical and empirical foundations of the measures proposed?

Applicants must also do the following:

(a) Either focus on professional development designed to serve teachers who teach children from low-income backgrounds or assure that these children are present in significant numbers within the school classrooms taught by the teachers who participate in the professional development programs and comparison groups.

(b) Provide a letter of cooperation from participating schools or school districts for the purposes of conducting the research. In the letter of cooperation, education officials will have to clearly indicate and accept the responsibilities associated with participating in the study. These responsibilities must include (1) agreement to provide a sufficient number of teachers and classrooms to participate in the study, and (2) agreement to the random assignment of teachers or schools to the professional development program being evaluated and to one or more comparison approaches (if random assignment is utilized).

(c) Be prepared to have approval from the applicant's Institutional Review Board for conducting the proposed research at the time the award is made.

(d) Be prepared to obtain in a timely fashion informed consent of teachers, parents of students participating in the study, and others from whom data will be collected.

In addition to the above requirements, the following also apply:

(1) An applicant that is not a research organization must obtain the services of at least one consultant who is an established researcher and who has committed enough time to the project to assure the integrity of the local evaluation and to participate in all required meetings.

(2) An applicant that is a research organization may involve curriculum developers or distributors in the project. Involvement of the curriculum developer or distributor must not jeopardize the objectivity of the evaluation and must not involve a level of professional training or support for the curriculum that rises above that available to ordinary adopters of the curriculum.

(3) An applicant that is a commercial curriculum developer must indicate in the budget summary the value of any nonfederal resources that would be devoted to the research project, such as their curriculum products.

Applications Available

Application forms and instructions for the electronic submission of applications will be available for this program of research no later than February 21, 2003, from the following web site:

<http://ies.asciences.com>

Mechanism of Support

The Institute intends to award grants in the form of *cooperative agreements* for periods up to 48 months pursuant to this request for applications.

Funding Available

The Institute may award from 5 to 15 grants as a result of this competition. The typical award will be approximately \$300,000 per year for 4 years. However, substantially larger budgets will be considered if a compelling case can be made for such support. Although the plans of the Institute include this program of research, awards pursuant to this request for applications are contingent upon the availability of funds and the receipt of a sufficient number of meritorious applications.

Eligible Applicants

Applicants that have the ability and capacity to conduct scientifically valid research are eligible to apply. Eligible applicants include, but are not limited to, non-profit and for-profit organizations and public and private agencies and institutions, such as colleges and universities.

Special Requirements

Applicants should budget for two meetings each year in Washington, DC, with other grantees and Institute staff. At least one project representative should attend each one-day meeting.

Letter of Intent

A letter indicating a potential applicant's intent to submit an application is optional, but encouraged, for each application. The letter of intent is to be sent by the date listed at the beginning of this document and should indicate -- in the email subject line -- the title of the program of research covered by this request for applications and the number of the request. The title and number of this request for applications are also specified at the beginning of this document. Receipt of the letter of intent will be acknowledged by e-mail.

The letter of intent should not exceed one page in length and should include a descriptive title and brief description of the research project; the name, institutional affiliation, address, telephone number and e-mail address of the principal investigator(s); and the name and institutional affiliation of any key collaborators. The letter of intent should indicate the duration of the proposed project and provide an estimated budget request by year, and a total budget request. Although the letter of intent is optional, is not binding, and does not enter into the review of subsequent applications, the information that it contains allows Institute staff to estimate the potential workload to plan the review. The letter of intent should be submitted by e-mail to:

Submitting an Application

Applications must be submitted electronically by the application receipt date, using the ED standard forms and the instructions provided at the following web site:

<http://ies.asciences.com>.

Potential applicants should check this site as soon as possible after February 21, 2003, when application forms and instructions first become available, for information about the electronic submission procedures that must be followed and the software that will be required.

The application form approved for this program is OMB Number 1890-0009.

Contents and Page Limits of Application

The application must include the following sections: (1) title page form (ED 424); (2) budget summary form (ED 524); (3) one-page abstract; (4) research narrative; (5) references; (6) curriculum vitae for principal investigators(s) and other key personnel (limited to 3 pages each and including only information sufficient to demonstrate that personnel possess training and expertise commensurate with their duties); (7) narrative budget justification; and (8) appendix.

The one-page *abstract* must include: The title of the project and brief descriptions of (1) the purpose of the project or the educational problem that will be addressed; (2) the population(s) from which the participants of the study(ies) will be sampled (age groups, race/ethnicity, SES); (3) the proposed research method(s); and (4) the proposed intervention if one has been proposed.

Incorporating the requirements outlined under the section on Requirements of the Proposed Research, the *research narrative* provides the majority of the information on which reviewers will evaluate the proposal and should address:

(a) Significance of the Project

- (1) Identify the educational problem that will be addressed by the study and describe the contribution the study will make to a solution to that problem.

(b) Approach

- (1) Provide a theoretical framework and review relevant prior empirical evidence supporting the proposed project, including a description of the intervention along with the conceptual rationale and empirical evidence supporting the intervention;
- (2) Include clear, concise hypotheses or research questions;
- (3) Present a clear description of, and a rationale for, the sample or study participants, including justification for exclusion and inclusion criteria and,

- where groups or conditions are involved, strategies for assigning participants to groups;
- (4) Provide clear descriptions of, and rationales for, data collection procedures and measures to be used; and
 - (5) Present a detailed data analysis plan that justifies and explains the selected analytic strategy, shows clearly how the measures and analyses relate to the hypotheses or research questions, and indicates how the results will be interpreted. Quantitative studies should, where sufficient information is available, include a power analysis to provide some assurance that the sample is of sufficient size.
- (c) Personnel
- (1) Include brief descriptions of the qualifications of key personnel (information on personnel should also be provided in their curriculum vitae).
- (d) Resources
- (1) Provide a description of the resources available to support the project at the applicant's institution and in the field settings in which the research will be conducted.

The research narrative (text plus all figures, charts, tables, and diagrams) is limited to the equivalent of 25 pages, where a "page" is 8.5 in. x 11 in., on one side only, with 1 inch margins at the top, bottom, and both sides. Double space (no more than 3 lines per vertical inch) all text in the research narrative. Use a font that is either 12-point or larger, or no smaller than 10 pitch (i.e., 10 characters per inch).

The 25-page limit does not apply to the title page form, the one-page abstract, the budget summary form and narrative budget justification, the curriculum vitae, references, or the assurances and certifications.

Reviewers are able to conduct the highest quality review when applications are concise and easy to read, with pages numbered consecutively.

The *budget justification* must provide sufficient detail to allow reviewers to judge whether reasonable costs have been attributed to the project. It must include the time commitments and brief descriptions of the responsibilities of key personnel.

The *appendix* must include letters of agreement from all partners (e.g., schools) and consultants. Each letter should include enough information to make it clear that the author of the letter understands the nature of the commitment of time, space, and resources to the research project that will be required if the application is funded. The appendix is limited to 15 pages.

Application Processing

Applications must be received by 11:59 p.m. Eastern time on the application receipt date listed in the heading of this request for applications. Upon receipt, each application will be reviewed for completeness and for responsiveness to this request for applications.

Incomplete applications and applications that do not address specific requirements of this request will be returned to the applicants without further consideration.

Peer Review Process

Applications that are complete and responsive to this request will be evaluated for scientific and technical merit. Reviews will be conducted in accordance with the review criteria stated below.

Each application will be assigned to at least two primary reviewers who will complete written evaluations of the application, identifying strengths and weaknesses related to each of the review criteria. Primary reviewers will independently assign a score for each criterion, as well as an overall score, for each application they review. Based on the overall scores assigned by primary reviewers, an average overall score for each application will be calculated and a preliminary rank order of applications prepared before the full peer review panel convenes to complete the review of applications.

The 30 applications deemed to have the highest merit, as reflected by the preliminary rank order, will be reviewed by a full panel of approximately 20 individuals who have substantive and methodological expertise appropriate to the program of research and request for applications, and who served as primary reviewers for individual applications. An individual reviewer may propose to the full panel that a particular application that does not score among the top 30 in the preliminary scoring but which the reviewer believes merits consideration should also be reviewed. The panel will decide whether to review any such application.

All members of the peer review panel will be expected to review the 30 applications being considered by the panel. Following presentations by the primary reviewers and discussion by the full panel, each member of the peer review panel will score each application, assigning a score for each criterion, as well as an overall score. In addition, reviewers will indicate whether or not an application is recommended for funding.

Review Criteria

The goal of Institute-supported research is to contribute to the solution of educational problems and to provide reliable information about the educational practices that support learning and improve academic achievement and access to educational opportunities for all students. Reviewers will be expected to assess the following aspects of an application in order to judge the likelihood that the proposed research will have a substantial impact on the pursuit of that goal. Information pertinent to each of these criteria is also described above in the section on Requirements of the Proposed Research and in the description of the research narrative, which appears in the section on Contents and Page Limits of Application.

- Significance (importance of the addressed problem, contribution of the project to solution of the problem)

- Approach (conceptual rationale, hypotheses or research questions, measures, research design, analytic methods)
- Personnel (qualifications of project staff)
- Resources (support at applicant's institution and at field settings)

Strong applications for Teacher Quality Research Grants clearly address each of the review criteria. They make a well-reasoned and compelling case for the significance of the project and the problems or issues that will be the subject of the proposed research. They present a research design (approach) that is complete and clearly delineated, and that incorporates sound research methods. In addition, the personnel descriptions included in strong applications make it apparent that the project director, principal investigator, and other key personnel possess training and experience commensurate with their duties. Descriptions of facilities, equipment, supplies, and other resources demonstrate that they are adequate to support the proposed activities. Commitments of each partner show support for the implementation and success of the project.

Receipt and Review Schedule

Letter of Intent Receipt Date: March 6, 2003

Application Receipt Date: April 18, 2003

Peer Review Date: June 26-27, 2003

Earliest Anticipated Start Date: September 1, 2003

Award Decisions

The following will be considered in making award decisions:

- Scientific merit as determined by the peer review
- Responsiveness to the requirements of this request
- Performance and use of funds under a previous Federal award
- Contribution to the overall program of research described in this request
- Availability of funds

Direct your questions to:

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PROGRAM AUTHORITY: 20 u.s.c. 9501 et seq., the “Education Sciences Reform Act of 2002,” Title I of Public Law 107-279, November 5, 2002. This program is not subject to the intergovernmental review requirements of Executive Order 12372.

APPLICABLE REGULATIONS: The Education Department General Administrative Regulations (EDGAR) in 34 CFR parts 74, 77, 80, 81, 82, 85, 86 (part 86 applies only to Institutions of Higher Education), 97, 98, and 99. In addition, 34 CFR part 75 is applicable, except for the provisions in 34 CFR 75.102, 75.105, 75.109(a), 75.200, 75.201, 75.209, 75.210, 75.217, 75.219, 75.220, and 75.230.